11.—A new species of Nectria (Asteroidea, Goniasteridae) from Western Australia

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Abstract

A new species of starfish belonging to the genus *Nectria* is described and figured. All specimens collected so far are from the lower west coast, between 29° and 34° South latitude in shallow water down to 55 feet.

Nectria wilsoni sp. nov.
(Fig. 1)

Diagnosis

Disk large, arms thick at base and slightly tapering. The plates on the aboral surface of the disk form elevated paxilliform tabulae, as is typical of the genus, and are covered with relatively large protuberant hemispherical granules. The peripheral granules form a radiating fringe. Distally the aboral tabulae are low and have a large central granule surrounded by a ring of small granules. Papulae are rare or absent from the distal part of each arm.

The species differs from other members of the genus in the size and appearance of the granules of the aboral tabulae, both on the arms distally and on the disk. The granules are coarser and larger and the tabulae somewhat more elevated and closer together than in *N. ocellata* (Perrier), to which it otherwise bears some resemblance.

Description of holotype

Rays 5. R/r is 77/26 mm R = 3r. Br is 30 mm at the base, 15 mm at the middle and 12 mm near the tip of the ray.

Aboral plates of disk and base of rays form large paxilliform tabulae, elevated about 3-4 mm and flat on top. The shaft of each tabula hourglass-shaped and about 2-3 mm across at narrowest point widening to 4-6 mm across on the crown. Crowns of tabulae subequal, more or less rounded in outline and crowded so that they frequently touch adjacent crowns. Tabulae covered with swollen hemispherical protuberant granules of from 0.4 to 1.0 mm across; the peripheral granules similar in shape and character, though sometimes longer. Each disk tabula has about 16 to 24 peripheral granules and 10 to 20 inner granules among which there may be considerable disparity in size. On the rays, the tabulae are smaller and lower and on the distal two thirds of ray are crowded, low, and difficult to distinguish. These distal plates each have a large central granule, protuberant and hemispherical, about 1 mm across and surrounded by a ring of 8-12 small hemispherical granules.

Papulae on the disk in groups of 6-14 between the connecting ossicles of the aboral plates and in decreasing numbers to about half way along the ray, rare or wanting on the distal half, absent between the marginal plates.

Madreporite low, about 2.5 mm across and hidden under the tabulae midway between centrum and margin.

Marginal plates distinct, about 21-24 in each series on each side of ray; proximally higher than long and covered with a more or less uniform coat of granules, but on the distal half squarish and a central granule on each plate is enlarged and dominant (fig. 1, B).

Oral intermediate plates covered with coarse rounded granules close enough to obscure the outlines of the plates.

Ambulacral plates with 2 or 3 (sometimes 4 proximally) furrow spines about 2 mm long and more or less rounded and blunt. Subambulacral spines 2, similar to furrow spines but shorter and thicker, occasionally a second series of granuliform subambulacral spines.

Two pedicellariae were detected behind the furrow series each with 4 or 5 slender slightly curved spines bending inwards against one another (fig. 1, E). They were not seen elsewhere.

Oral plates with 6 or 7 stout prismatic or quadrate marginal spines, the innermost stoutest, flattened where they are contiguous. On the surface of each plate there are 3 or 4 stout prismatic spines with rounded edges and distally on each plate a group of 6 to 8 small granules.

Colour

All specimens have been a strong red when fresh, varying from deep orange to magenta on both surfaces. The skin of the papular areas and between the granules of the oral surface may be pale, almost white.

Material Examined

The Holotype (W.A.M. no. 3-65) is labelled "Sorrento Beach near Perth, 2 fath., 27/1/63" and was collected by B. R. Wilson. Nine other specimens have been examined and are designated paratypes, eight of these are lodged in the Western Australian Museum and the ninth in the South Australian Museum.

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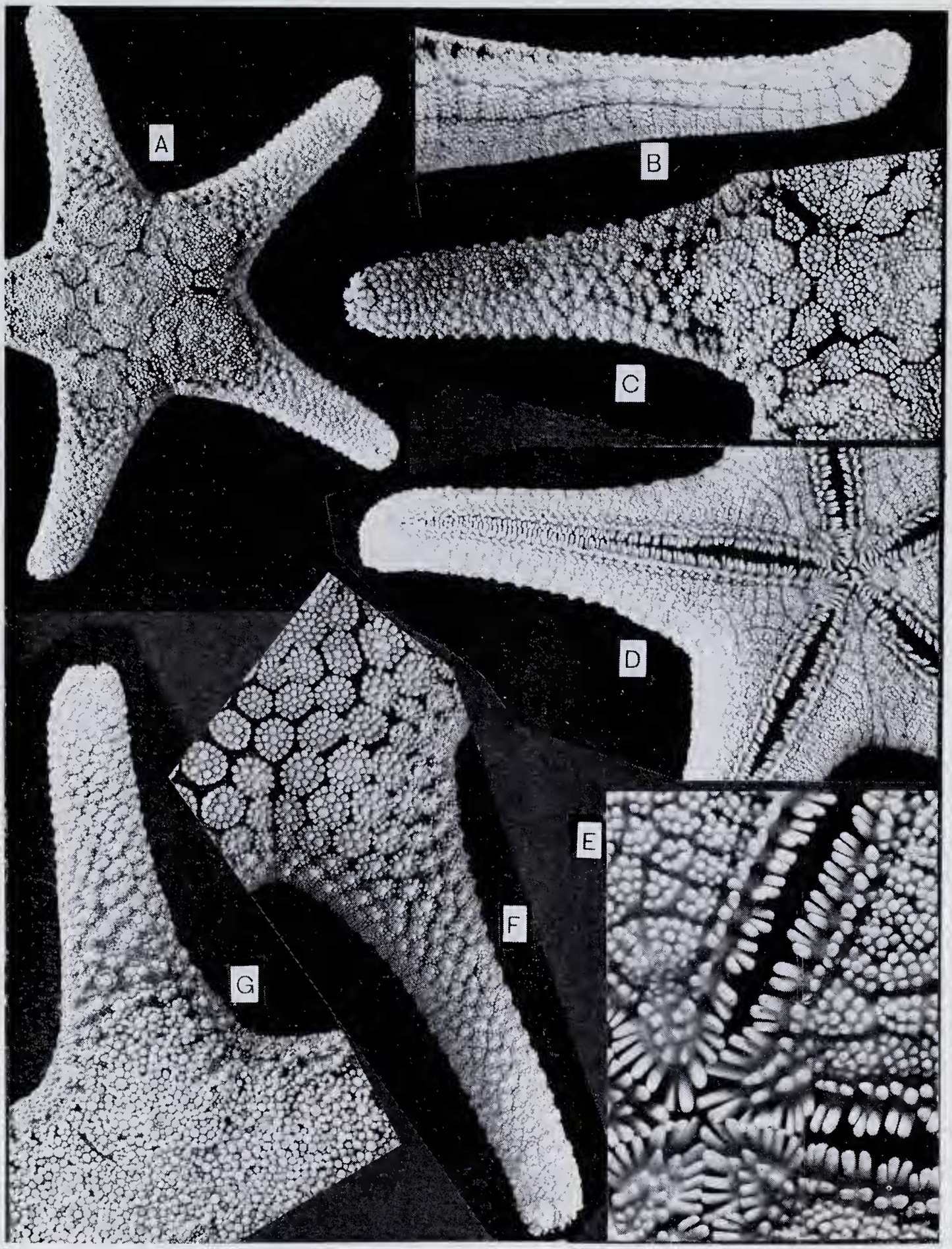

Figure 1.—*Necria wilsoni* sp. nov. A-E: Holotype, W.A.M. No. 3-65. F: Paratype, W.A.M. No. 1-65. G: Paratype, S.A.M. No. K 613.

W.A.M. 18-59. R = 63 mm Eagle Bay, Cape Naturaliste, 30 ft., rock.

W.A.M. 19-59. R = 75 mm Dunsborough, 30 ft.

W.A.M. 2-62. R = 85 mm Hamelin Bay near Cape Leeuwin, on jetty piles.

W.A.M. 3-62. R = 110 mm Off Beagle Island (29° 50′ S.), probably in a crayfish pot.

W.A.M. 1-65. R = 54 mm Dunsborough, at 55 ft. on rock.

W.A.M. 2-65. R = 90 mm Sorrento reef, near Fremantle, on sea grass.

W.A.M. 4-65. R = 90 mm Sorrento reef.

W.A.M. 5-65. R = 83 mm Sorrento beach, 18 ft., on sea grass, near limestone.

S.A.M. K 613. R = 69 mm Hall Bank near Fremantle.

With the exception of W.A.M. 3-62, all were collected by B. R. Wilson.

These specimens show some variability in the coarseness of the granulation, which is particularly noticeable on the aboral tabulae. Two of the smaller paratypes (W.A.M. 1-65 and S.A.M. K613) have smaller and less protuberant granules (fig. 1, F) and in this respect approach the finer granulation of *N. ocellata*. They also have longer and more slender arms, but this may be attributable to their size. In others (W.A.M. 2-62, 2-65, 4-65, 5-65,) the granules of the aboral tabulae are larger and the peripheral granules more elongate (fig. 1, G). The type thus occupies an intermediate position between the extremes as they are now known. There is much variation in the separation of the tabulae in preserved specimens; in some they are well separated so that the peripheral granules are not in contact, but in others they are so tightly packed that the outlines of individual tabulae are obscured. The peripheral granules of the tabulae are mobile and may be preserved in any position from flat to almost vertical.

The presence or absence of pedicellariae has no significance. In four specimens they are absent, in one they are common both orally and on the shafts of the tabulae, and in the rest aborally only.

The ratio R/r ranges from 2.8 to 3.2, averaging 3.1.